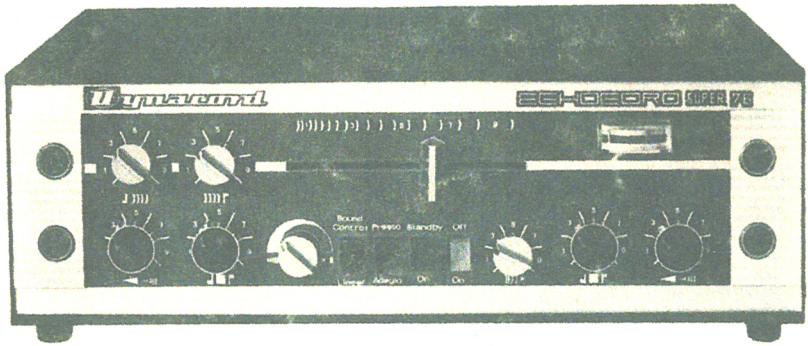
Dynacord



Bedienungsanleitung - Operating manual - Mode d'emploi

ECHOCORD SUPER 76

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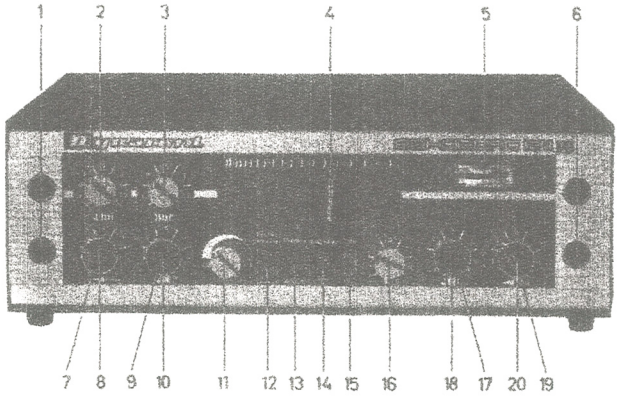
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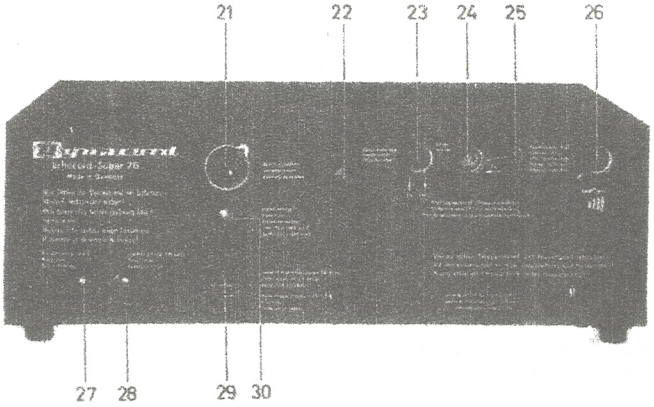
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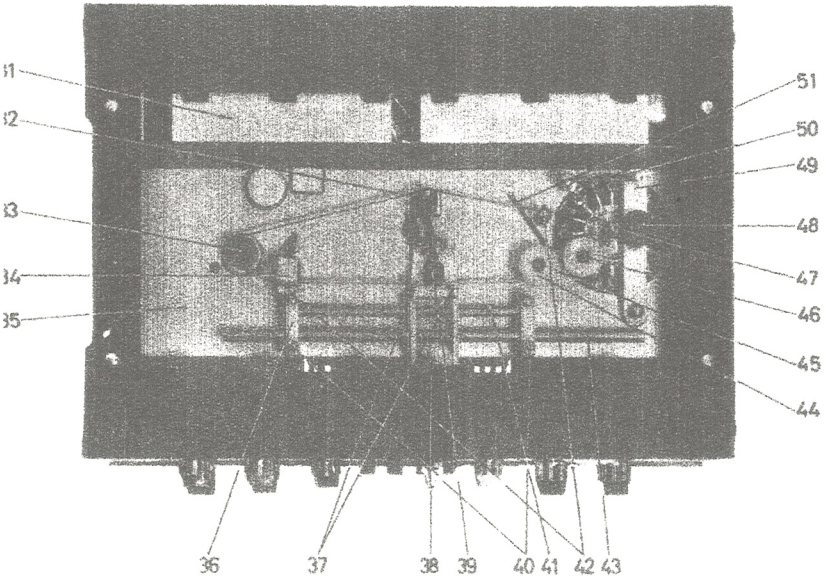
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Operating Controls and Components

(1) Universal input I and II

(2) Bass control for echo/reverberation

(3) Treble contol for echo/reverberation

(4) Slide permitting any setting of echo and/or reverberation

(5) Modulation indicator

(6) Universal input III and IV

(7) Volume control for input I and II

(8) Echo/reverberation volume for input I and II

(9) Bass control for input I and II

(10) Treble control for input I and II

(11) Mixing control for the two reverberation systems

(12) Switch echo/reverberation - sound control „on/off" (linear)

(13) Change-over switch-for tape speeds

(14) Motor and echo/ reverberation „On" and „Off"

(15) Unit „On" – „Off"

(16) Reverberation duration and/or echo repetitions

(17) Bass control for inputs III and IV

(18) Treble control for inputs III and IV

(19) Volume control for inputs III and IV

(20) Echo/reverberation volume for input III and IV

(21) Line voltage selector

(22) Fastener for spare fuse bag

(23) „Output" socket

(24) Coupling jack for Dynacord amplifier

(25) Level control for echo/reverberation

(26) Socket „Remote control switch" for echo/reverberation

(27) Fuse for motor

(28) Fuse for the transistor current supply

(29) Mains supply socket

(30) Fuse for the mains voltage

(31) Torsional reverberation system

(32) Erase head

(33) Movement roller (rubber roller)

(34) Playback head with shield

(35) Mounting panel for drive mechanism

(36) Support for slide

(37) Tape-guiding shaft for slide

(38) Slide

(39) Recording head

(40) Adjusting screws

(41) Small slide bar

(42) Tape-guiding shaft

(43) Large slide bar

(44) Movement roller

(45) Tension lever

(46) Tension roller

(47) Driving spindle with motor

(48) Pressure roller

(49) Upper pressure lever

(50) Tension spring for pressure lever

(51) Tension spring for tension lever

Operating instructions

A) Checking the mains voltage:

Before turning on the unit, check if the voltage selector (21) at the rear panel of the unit is set to the proper line voltage. The unit is suitable for connection to a. c. mains only. Setting to another voltage is accomplished by means of a screw driver or a suitable coin which should be turned until the mark points to the respective mains voltage.

The unit is set for 220 volts in the factory. The mains fuse (30) may be replaced by turning out the cap. Repeated blowing of properly sized and rated fuses indicates a defect in the unit. Underfusing may cause blowing of the fuses even though the unit is not defective. Mended fuses or overfusing may cause severe damage to the unit which is **not covered by warranty**. The electrical value is impressed on one of the two fuse caps at the side.

B) Fuses:

The size of the mains fuse is:

110 to 130 volts = 800 mA, slow
220 to 240 volts = 400 mA, slow

motor fuse: 1.6 amps. slow
appliance fuse: 400 mA slow

Dimensions of all fuses = 5 × 20 mm

Attention! Spare fuses are in a plastic bag at the rear wall of the unit (22).

C) Connections to mains supply:

The earting-contact-type line cord supplied with the „ECHOCORD-SUPER 76" should be plugged into the mains supply socket (29). The specified protection against electric shock hazard as well as the best possible freedom from humming is secured only if this line cord is plugged into a properly installed earthing-contact-type socket. Depending on the local mains conditions, it may become necessary to change the polarity of the power plug in order to secure maximum freedom from humming.
In order to eliminate so-called hum pickups, care should be taken that the„ECHO-CORD-SUPER 76" and the amplifier used are plugged into two sockets not placed too far from each other. The use of multiple sockets is an advantage in this respect.

D) Input and output connectors

Inputs

Four universal input jacks located on the illuminated control panel permit the alternative connection of dynamic microphones or electronic instruments (guitar, etc.).

A special arrangement of the input stages permits the direct connection of low-impedance microphones without requiring an additional microphone transformer (cable transformer). It is, however, very important in this connection that the microphone connection plug is symmetrically wired; one insulated wire must be soldered to contact 1 and one to contact 3 and the shielding must be connected to contact 2.

The plug of an electronic instrument (guitar, etc.) should be connected to contact 1 = insulated wire and to contact 2 = shielding according to the respective standard.

All input cables must be shielded. In all jacks the shielding must be connected to pin 2.

Inputs I and II (1):
Universal for microphon or instrument

Wiring of jack:

Pins 1 and 3	for dynamic microphones 150–500 ohms
Pins 1 and 2	for instruments (guitar, etc.)

Inputs III and IV (6) as under Inputs I and II

Inputs I and II (1) as well as input III and IV (6) are connected in parallel. For this reason two microphones of the same electrical value can be connected to the two inputs I and II (1) and two guitars of the same electrical value to the inputs III and IV (6). It is, of course, also possible to connect four microphones or four guitars of the same electrical value. It is, however, **impossible** to connect **at the same time** a microphone **and** a guitar to the inputs I and II (1) and III and IV (6) respectively, because of the **different impedances** of microphone and guitar.

Red coupling jack (24):
connecting jack to DYNACORD amplifier with cable VK 1.5 (diode cable)

Wiring of jack:

Pin 1 + 2	= recording line
Pin 3 + 2	= playback line

Output (23):
for any amplifier

Wiring of jack:

Pin 1 + 2	= 1 V for amplifier inputs with low sensitivity
Pin 3 + 2	= 100 mV for sensitive amplifier inputs

Remote control jack (26):
This jack serves for connecting a remote control switch to switch on or off echo and/or reverberation from a distance.

E) Putting into operation

> **Attention:** Every time the unit is put into operation and also during operation, care should be taken that the unit is not placed on another heat-generating device. The heat developed might damage the unit.

Before putting the unit into operation for the first time, open cover by means of a screw driver; for this purpose push back the three inner locking devices to as far as the middle of the cover enabling the cover to be lifted off. For closing reserve the above procedure.

Before the unit leaves our plant, the pressure roller is locked by means of a stopper for protection in transit Consisting of a piece of notched flat material. The stopper is located between the upper tension lever (49) and the small cylindrical pull spring. See indication strip on the unit. Remove this stopper by pressing slightly against the tension lever. Then check if the magnetic tape loop is inserted properly as shown in the diagram inside the unit. Remember that the tape should be changed only while the unit is switched off. To change the tape, lift the shield off the playback head (34). Note that the shield should be replaced properly after threading the tape to prevent humming. While threading the tape, pull back the small holding spring of the tape-guide shaft (42) slightly and place the tape in the provided groove. Moreover, note that the **glossy side** of the tape should be located **to the outside,** i. e. the dull side should rest against the heads. The endless tape is made of a highly durable and abraison-resistant material. These tapes are available from our distributors under the designation DES 299.

To turn on the unit, depress the red button (15) (button jumps out, the operating panel is illuminated). The tape driving motor is turned on by depressing the grey button (14) (button jumps out); the endless loop is tightened at the same time.

When the button is depressed again, the motor is switched off and the tape is slackened. As a pre-amplifier without echo and reverberation effect, the umit remains in operating condition in this state. To switch off the unit, depress the red button once more (button stays in).

Attention, very important!
The unit should not be disconnected by unplugging the mains plug. The tape is moved by the rubber pressure roller (48) which is raised in „Off" position. By pulling the mains plug, the roller remains on the motor axle and would therefore be deformed with resultant running out of true.

F) Adjustment and operation:

1. The desired volume for „Original" is adjusted by means of the controls (7) and (19). If only one double input is required, the volume control not used should be turned back to zero (left-hand stop).
2. Adjust treble controls (10) + (18) and
3. bass controls (9) + (17) for „Original" according to the desired sound impression.
4. In case that a linear frequency response of the echo/reverberation, is desired, button (12) must be depressed; if this button is released, the treble control (3) and the bass control (2) for echo/reverberation are in operation.
5. Bass control (2) and treble control (3) should be adjusted accordingly for reverberation and echo, respectively.
6. Turn up echo/reverberation volume controls (8) and (20) as much as required, at the same time watching the indication instrument (5). The best reverberation reproduction is obtained when the pointer moves at the point where the black and the red fields meet.
   Attention! If the pointer moves steadily in the red field, overshooting and thus distortion of reverberation will result.
7. For shorter echos press button (13) „Presto" (button stays in), for longer echos „Adagio" press button once more (button jumps out).
8. The distance of the recording head to the playback head can be changed continuously by means of slide (4). When the slide is at the right-hand stop, this being the maximum distance of the recording head to the playback head, the longest echo is produced. When the slide is moved farther to the left, a shorter echo is obtained. As the slide approaches the left-hand stop, the echo changes into a „SHATTER REVERBERATION" and turns into the shortest reverberation when reaching the left-hand stop.
9. Setting for optimum shatterfree reverberation:
   a) Button (13) in „Presto" position;
      mixing control (11) in mid-position;
      move slide (4) to between 3 and 5;
      set reverberation duration (16) to between 3 and 7 (note para. 10).
   b) Button (13) in „Adagio" position;
      mixing control (11) in mid-position;
      move slide (4) to between 1 and 3;
      set reverberation duration (16) to between 3 and 7 (note point 10)

10. Turn reverberation duration (16) to the right until the desired lenght of reverberation and/or the desired number of echos is obtained.

Attention! Turning up this control too much will result in whistling and howling of the unit.

Besides the slide, the „reverberation duration" control (16) is the most important adjusting member of the unit. With this control, the reverberation can be prolonged by a multiple up to the so-called „Cathedral reverberation". Also the effect of the shatter reverberation can be considerably increased; moreover, 20 and more „echo" repetitions may be obtained. Any desired effect can be produced by the respective position of the slide (4), the reverberation duration control (16), and the reuerberation tone controls (2) + (3).

11. The mixing control for magnetic soumd and torsional reverberation (11) produces especially impressive effects:
Control in mid-position = torsional and magnetic tape reverberation have equal volume
Control at the left-hand stop = torsional vibration only
Control at the right-hand stop = magnetic tape reverberation only
Control half-left = a greater amount of torsional and a smaller amount of magnetic tape reverberation
Control half-right = a greater amount of magnetic tape and a smaller amount of torsional reverberation.
The individual setting of this control is, of course, left to you; it should correspond to the desired sound.

Level for echo/reverberation (25):

When using older DYNACORD amplifiers with echo/reverberation switches, this control serves as reverberation volume control for the microphones and/or instruments connected to the amplifier (turning control to the left decreases, turning to the right increases reverberation).

When using new DYNACORD amplifiers which have their own reverberation volume controls, the level control (25) should be fully turned up (right-hand stop) and left in this position.

G) Combination of the „ECHOCORD-SUPER 76" with new DYNACORD amplifiers

The combination of the „ECHOCORD-SUPER 76" with the new DYNACORD amplifiers EMINENT I, II, BASSKING T, HiFi-FAVORIT I, II, GIGANT, MV 160, etc., is effected by means of a connecting cable VK 0.5 or 1.5 between the red coupling jack (24) of the EC-SUPER 76 and the respective red jack of the above-mentioned units. The reverberation level control (25) of the EC-SUPER should be fully turned up (to the right). When all adjustments have been made on the EC-SUPER 76 and on the following amplifier in accordance with the respective operating instructions, the desired echo/reverberation proportion can be adjusted continuously by means of the individual reverberation controls of the amplifier.

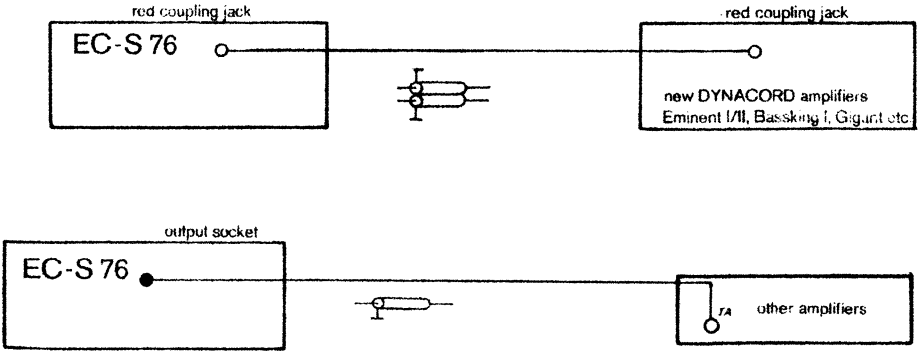
H) Combination of the „ECHOCORD-SUPER 76" with earlier DYNACORD amplifiers

When the „ECHOCORD-SUPER" is combined with the DYNACORD amplifiers EMINENT, KING, REX, etc. there is the possibility of providing the microphones and instruments which are connected to the amplifier, with reverberation or echo effect. After having made all settings on the ECHOCORD-SUPER 76 and after having set the volume control, tone control, and totalizing volume control on the amplifier to the desired room volume, switch on the reverberation switches on the amplifier. The volume for reverberation and/or echo is set on the „Reverberation level control" (25) by means of a small screw driver.

Turning clockwise increases, turning counterclockwise decreases echo/reverberation. Normally this control has to be set only once and can then remain in this position.

If a disturbing hum should occur when connecting the units, a defective or improperly connected-shielded cable is often the cause. Moreover, such hum may also be caused by a larger power transformer of a nearby amplifier. In this case place the units at such a distance from each other (if necessary turn slightly) that a mutual interference is eliminated.

Examples for interconnecting the ECHOCORD-SUPER 76



I) Service and Maintenance:

Make sure that adequate air circulation is provided for cooling the ECHOCORD-SUPER 76. For this reason the unit should be placed not too close to heat-developing equipment.

The service life of the endless magnetic tape DES 299 is limited by the mechanical abraison and depends largely on the cleanness of the tape-guiding panel with the movement rollers, tape-guiding shafts, magnetic heads, etc.

For the sake of longer life of the magnetic tape, it is recommended to depress button (14) when operating without echo or reverberation. In this position of the button, the driving motor is not running, while all other circuits operate.

Every time the tape loop is replaced, it is urgently recommended to clean the tape-guiding panel, magnetic heads, tape-guiding shafts, and movement. rollers. **Light stripes on the tape loop indicate that there are point-shaped dirt deposits on the magnetic head faces which must be removed under any circumstances.** Do not use metallic objects for cleaning the heads, but clean with alcohol-soaked linen cloth.

Lubrication and/or oiling of the movement, tension, and pressure rollers is not necessary as all bearings are of the self-lubricating type.

Two adjusting screws (40) are provided to ensure that the slide moves easily. If the slide is too stiff, slightly slacken the screws (turn counterclockwise). If it should move too readily, tighten the screws (turn clockwise).

DYNACORD units are quality products and belong to the world's top class. The component parts we use are first-class products of leading manufacturers. Extensive and strict inspection of the goods received ensures perfect and consistent quality of the various components. If it should happen nevertheless that a component part (resistor, capacitor . . .) becomes defective causing the unit to break down, please apply to the nearest DYNACORD service shop: A list of our service shops is given on the certificate of warranty.

Remember that the unit inclusive of the control panel must under no circumstances be cleaned with agents dissolving plastics (nitro dilutions, etc.). We reccommend to use a rag moistened with soapy water for cleaning. Subsequent treatment of the control panel with an antistatic agent, such as Plexiklar, Antistatic spray 100,etc., is advisable.

Technical Data:

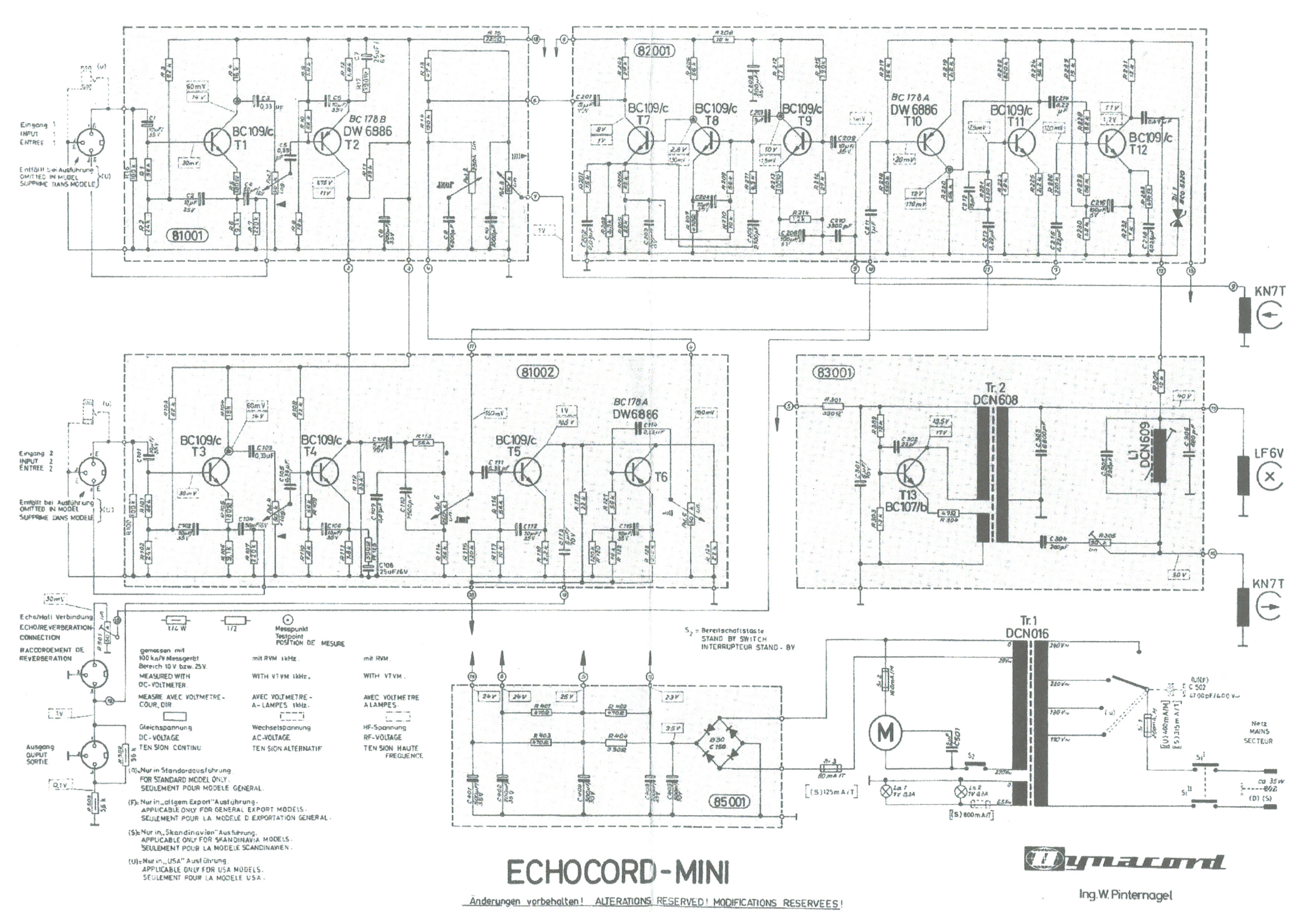
Operating voltages:	110, 130, 220, 240 volts A. C.; 50–60 c.p.s.	
Power consumption:	approx. 39 VA	
Transistors and IC	24 × BC 237 B, 1 × BC 107 B, 1 × SN 709 N	
Diodes and rectifiers:	B 60/C 800 Si, 2 × AA 112, / 2 × 5520	
Technical arrangement:	Magnetic tape echo/reverberation and torsional reverberation can be used mixed or individually	
Frequency range:	Original	30–16,000 c.p.s.
	Echo/reverberation	50–12,000 c.p.s.
Frequency correction:	per input:	treble = + 10 db to – 18 db at 10 Kcps.
		bass = + 12 db to – 17 db at 30 cps
	Reverberation:	treble = + 13 db to – 18 db at 10 Kcp
	(Sound control button)	bass = + 10 db to – 17 db at 60 cps.

Inputs:

2 × 2 universal	Sensitivity:	Impedance:
high-impedance = pin 1+2	approx. 10 mV	approx. 100 KOhms
low-impedance = pin 1+3	approx. 1 mV	1 KOhm

Output:	Pin 1 + 2 = 1 volt approx. 5 KOhms
	Pin 3 + 2 = 100 mV approx. 5 KOhms
Red coupling jack:	Pin 1 + 2 = 30 mV recording voltage
	Pin 3 + 2 = 1 volt playback voltage
Remote control jack for echo/reverberation:	Pin 1 = Live wire
	Pin 2 = Shielding
echo delay:	for Adagio min. 96 msec. max. 0.45 sec.
	for Presto min. 48 msec. max. 0.22 sec.
Tape speed:	Presto = 44 cm/sec. ((17½ ips.),
	Adagio = 22 cm/sec. (8¾ ips.)
Number of echos:	> 20
Total reverberation duration:	max. approx. 8 sec.
Reverberation control:	1) by adjustable recording head
	2) by variable feedback
	3) by variable torsional reverberation
Reverberation character:	variable by actuating „Sound control/Linear" button and with seperate treble and bass controls.
Endless magnetic tape:	Type DES 299, 51 cm (20 in.) long
Modulation indication:	by instrument
Controls:	2 mixing controls, 2 reverberation volume controls, 2 treble and 2 bass controls, 1 reverberation mixing control, 1 reverberation duration control, 1 treble and 1 bass control for reverberation, 1 slide, 4 pushbuttons
Fuses for:	220–240 volts = 400 mA/slow
	110–130 volts = 800 mA/slow
	Motor = 1.6 amp./slow
	Transistors = 400 mA/slow
	Dimensions = 5 × 20 mm
Illumination lamps:	2 × 7 V / 0.3 A – E 10
Design:	Modern black-coloured cabinet with removable lid, floodlight contro panel, carrying handle.
Dimensions:	Width = 386 mm (14¼ in.), Height = 139 mm (5½ in.), Depth = 268 mm (10½ in.)
Weight:	7.6 kp (nearly 17 lbs.)
Accessories:	Line cord
	Connecting cable VK 1.5
	Spare fuses

Subject to modification!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82001
81002
83001
85001
BC109/c T1
BC 178 B DW 6886 T2
BC109/c T7
BC109/c T8
BC109/c T9
BC 178 A DW 6886 T10
BC109/c T11
BC109/c T12
BC109/c T3
BC109/c T4
BC109/c T5
BC 178A DW6886 T6
Tr. 2 DCN608
T13 BC107/b
LJ DCN609
Tr. 1 DCN016
Eingang 1 INPUT 1 ENTREE 1
Eingang 2 INPUT 2 ENTREE 2
Entfällt bei Ausführung OMITTED IN MODEL SUPPRIME DANS MODELE (U)
Echo/Hall Verbindung ECHO/REVERBERATION CONNECTION RACCORDEMENT DE REVERBERATION
Ausgang OUTPUT SORTIE
KN7T
LF6V
KN7T
Netz MAINS SECTEUR
gemessen mit 100 kΩ/V Messgerät Bereich 10 V bzw. 25 V.
MEASURED WITH DC-VOLTMETER.
MESARE AVEC VOLTMETRE-COUR. DIR
mit RVM 1kHz.
WITH VTVM 1kHz.
AVEC VOLTMETRE-A-LAMPES 1kHz.
mit RVM.
WITH VTVM.
AVEC VOLTMETRE A LAMPES.
Gleichspannung DC-VOLTAGE TENSION CONTINU
Wechselspannung AC-VOLTAGE TENSION ALTERNATIF
HF-Spannung RF-VOLTAGE TENSION HAUTE FREQUENCE
1/4 W
1/2
Messpunkt Testpoint POSITION DE MESURE
S2 = Bereitschaftstaste STAND BY SWITCH INTERRUPTEUR STAND-BY
(U) Nur in Standardausführung FOR STANDARD MODEL ONLY. SEULEMENT POUR MODELE GENERAL.
(F) Nur in „allgem. Export" Ausführung. APPLICABLE ONLY FOR GENERAL EXPORT MODELS. SEULEMENT POUR LA MODELE D EXPORTATION GENERAL.
(S) Nur in „Skandinavien" Ausführung. APPLICABLE ONLY FOR SKANDINAVIA MODELS. SEULEMENT POUR LA MODELE SCANDINAVIEN.
(U) Nur in „USA" Ausführung. APPLICABLE ONLY FOR USA MODELS. SEULEMENT POUR LA MODELE USA.

ECHOCORD-MINI

Änderungen vorbehalten! ALTERATIONS RESERVED! MODIFICATIONS RESERVEES!

Dynacord

Ing. W. Pinternagel